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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/825,128	04/03/2001	Raymond Grant Rowe	RD-27,905/USA	1704
6147	7590	03/11/2004	EXAMINER	
GENERAL ELECTRIC COMPANY GLOBAL RESEARCH PATENT DOCKET RM. BLDG. K1-4A59 SCHENECTADY, NY 12301-0008			IP, SIKYIN	
			ART UNIT	PAPER NUMBER
			1742	

DATE MAILED: 03/11/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/825,128

Applicant(s)

ROWE ET AL.

Examiner

Sikyin Ip

Art Unit

1742

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 22 December 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 11-25 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 11-25 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### Claim Rejections - 35 USC § 103

1. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

2. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(f) or (g) prior art under 35 U.S.C. 103(a).

3. Claims 11-15 and 21-25 are rejected under 35 U.S.C. ' 103 as being unpatentable over USP 4702299 to Gravemann in view of USP 4820356 to Blackburn et al.

4. Gravemann disclose(s) the features including the claimed application of Ni superalloy for wear-proof inserts (col. 5, lines 7-17). The difference between the reference(s) and the claims are as follows: Gravemann does not disclose the heat treatment of the Ni superalloy. However, Blackburn (col. 2, line 30- col. 7, line 50, Tables I-IV, and examples - especially example 1) disclose(s) heat treatment of Ni

Art Unit: 1742

superalloys for improving crack property at high temperature with steps comprising heating to below gamma prime solvus, forced air cooling, cooling, and aging (Example 1, in col. 5, lines 1-15) in the same field of endeavor or the analogous metallurgical art. The high temperature crack is also a problem for mold/die materials. Therefore, it would have been obvious to one having ordinary skill in the art of the cited references at the time the invention was made to heat treat Ni superalloy insert of Gravemann as taught by Blackburn in order to improve crack property. In re Venner, 120 USPQ 193 (CCPA 1958), In re LaVerne, et al., 108 USPQ 335, and In re Aller, et al., 105 USPQ 233.

5. Claims 16-20 are rejected under 35 U.S.C. ' 103 as being unpatentable over USP 4820356 to Blackburn et al.

Blackburn (col. 2, line 30- col. 7, line 50, Tables I-IV, and examples, especially example 2) disclose(s) heat treatment of Ni superalloys for improving crack property at high temperature with steps comprising heating to below gamma prime solvus, cooling, and aging (Example 2, in col. 5, lines 15-20) in the same field of endeavor. Therefore, it would have been obvious to one of ordinary skill in the art to select any portion of range/steps, including the claimed range/steps, from the broader range disclosed in a prior art reference because the prior art reference finds that the prior art composition/steps in the entire disclosed range/steps have a suitable utility. Also see MPEP § 2131.03 and § 2123. Overlapping ranges have been held to be a prima facie case of obviousness. See Titanium Metals Corporation of America, 227 USPQ 773 (Fed. Cir. 1985) and In re Petering, 301 F.2d 676, 133 USPQ 275 (CCPA 1962).

6. The wording "below" in lines 5 and 8 of claims 16 and 21 respectively fails to define a definite heating temperature. Thus, said temperature reads on any controlled

Art Unit: 1742

cooled temperature above room temperature as disclosed by Blackburn (col. 2, lines 29-53).

7. Using inert gas during heat treatment is conventional and it is contemplated within ambit of ordinary skill artisan to protect heating material from oxidized.

### Response to Arguments

8. Applicant's arguments filed December 22, 2003 have been fully considered but they are not persuasive.

9. Applicants' argument as set forth in page 8, bottom paragraph of the instant remarks is noted. But, applicants' attention is directed to example 1 in col. 5, lines 1-15 which discloses heating below gamma prime solvus temperature, forced-air cooling, then cooling, and aging. The steps order is same as claimed in instant claims 11, 16, and 21.

10. Applicants' argument in pages 9 and 10, first full paragraph of the instant remarks is noted. But, applicants' attention is directed to Blackburn example 2, (col. 5, lines 1-20) which has omitted the controlled cooling. Moreover, Blackburn in col. 2, lines 48-53 teaches growth of coarse gamma prime particles at the grain boundaries in first step of heat treatment. In second step of heat treatment, Blackburn in col. 2, lines 54-63 teaches developing fine gamma prime particles within the grains and preventing grain growth. The wording "fine" used by Blackburn means the same as the instant recited "smaller" in claims 11, 16, and 21.

11. Applicants' interpretation of col. 3, lines 65-67 of Blackburn in page 9, first full paragraph and page 10, second full paragraph of instant remarks is noted. But, the examiner disagrees because Blackburn discloses the fine grain size is about/up to the starting coarse grain size in first heat treatment. Blackburn define second heat

Art Unit: 1742

treatment grain size with "fine" instead of "coarse" which means Blackburn recognizes second grain size is smaller than starting coarse grain size.

## Conclusion

This is a RCE application. All claims are drawn to the same invention claimed in the earlier application and could have been finally rejected on the grounds and art of record in the next Office action if they had been entered in the earlier application. Accordingly, **THIS ACTION IS MADE FINAL** even though it is a first action in this case. See MPEP § 706.07(b). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no, however, event will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

The above rejection relies on the reference(s) for all the teachings expressed in the text(s) of the references and/or one of ordinary skill in the metallurgical art would have reasonably understood or implied from the text(s) of the reference(s). To emphasize certain aspect(s) of the prior art, only specific portion(s) of the text(s) have been pointed out. Each reference as a whole should be reviewed in responding to the rejection, since other sections of the same reference and/or various combination of the cited references may be relied on in future rejection(s) in view of amendment(s).

Art Unit: 1742

All recited limitations in the instant claims have been met by the rejections as set forth above.

Applicant is reminded that when amendment and/or revision is required, applicant should therefore specifically point out the support for any amendments made to the disclosure. See 37 C.F.R. § 1.121.

#### Examiner Correspondence

Any inquiry concerning this communication or earlier communications from the examiner should be directed to S. Ip whose telephone number is (571) 272-1241. The examiner can normally be reached on Monday to Friday from 5:30 A.M. to 2:00 P.M.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dr. Roy V. King, can be reached on (571)-272-1244.

The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



SIKYIN IP  
PRIMARY EXAMINER  
ART UNIT 1742

S. Ip  
March 6, 2004